

REMARKS

Amendment to the claims

Claims 1-43 are pending in this application. Claims 1-10 and 14-43 are rejected and claims 11-13 are objected to in the instant Office Action.

Claims 1, 11-13, 31 and 35-37 are now amended.

Claim Objections (Claims 11-13)

The Examiner stated in the final office action that "claims 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or suggest processes involving alloys as recited in these claims."

The proffered amendments to claims 11-13 have satisfied the Examiner's requirement and therefore claims 11-13 as amended are allowable.

Claim 35, 36 and 37, as amended, depend from claims 11, 12, 13, respectively and therefore are allowable.

Claim Rejections (Claims 1-10 and 14-43)

Claims 1 and 31 are independent claims. Claims 2-10, 14-30 and 41-42 depend directly or indirectly from claim 1. Claims 32-34, 38-40 and 43 depend directly or indirectly from claim 31. Claims 35-37 have been amended to depend from allowable claims and therefore are allowable as discussed previously.

The Examiner has rejected claims 1-10 and 14-43 under 35 U.S.C. 103(a) as being unpatentable over Choi et al. Journal of Alloys and Compounds, vol. 315, pages

178-186, 2001, in view of Carter et al. (U.S. Pat. No. 3,017,299) or Shibue et al. (U.S. Pat. No. 5,372,663), and further in view of pp. 586-591 and 608-620 of the ASM Handbook.

First, the Examiner relied on Choi et al. to teach the present invention except for degassing and forming steps. It is the applicant's position that Choi et al. do not teach all of the limitations of the invention as read by the Examiner. The cryogenic milling taught by Choi et al. is at "about -85 °C and at room temperature...Low temperature of -85 °C in an attritor was maintained by continuously dripping methanol which was cooled down to -120 °C by cryocooler SW-CF-200 into water jacket..." (first paragraph of the section titled "Experimental details" on page 179). Choi et al. does not teach or suggest carrying out the cryogenic milling in a slurry system formed by the alloy particles and a liquid selected from liquid nitrogen, liquid helium, liquid argon, liquid nitrogen mixed with liquid helium, and liquid nitrogen mixed with liquid argon. The milling temperature of the present invention is substantially lower than that of Choi et al. (the boiling points of nitrogen, helium and argon are about -195.8 °C, -268.9 °C and -185.9 °C, respectively).

Further, the Examiner recites that "Choi does not specify the degassing or forming steps as recited in the instant claims" and relied on either Carter et al. or Shibue et al. to teach degassing titanium alloys.

It is the applicant's position that Carter et al. does not teach or suggest degassing titanium alloys as taught by the present invention.

Carter et al. teaches degassing hydrogen from solid titanium using calcium metal. The "degassing" method and process taught by Carter et al. are entirely irrelevant to the method and process taught by the present invention wherein vacuum is used. Carter et al. does not teach or suggest using vacuum to degas the titanium alloy.

Neither Carter et al. or Shibue et al. cures the deficiency of Choi et al. with respect to the absence of the teaching or suggestion of cryogenic milling in a slurry using the above-referenced liquids.

The Examiner further relied on ASM Handbook to teach various forming steps. It is the applicant's position that the ASM Handbook also fails to teach or suggest cryogenic milling in a slurry using the above-referenced liquids.

Therefore, the cited prior art, when considered in combination, fail to teach all the limitations of claims 1 and 31, as amended, in the present invention. The rejection of independent claims 1 and 31 and the claims depending directly or indirectly therefrom (claims 2-10, 14-30, 32-34 and 38-43) based on obviousness over the cited prior art should be withdrawn.

Therefore, claims 1-10, 14-34 and 38-43 should be indicated as allowable.

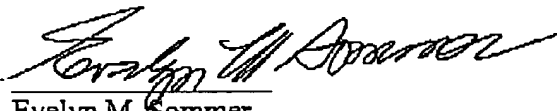
SUMMARY

In view of the above, it is respectfully requested that the Examiner's objection and rejection be withdrawn and the claims (1-43, as amended) indicated as allowable to the applicant.

Respectfully Submitted,
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June 27, 2006

Date



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